

Claims

- [c1] A loading tube for a perforating gun comprising:
cups forming cup cavities for enclosing an explosive
charge within each of the cups; and
ridges forming valleys therebetween.
- [c2] The loading tube of claim 1 wherein each cup cavity is
formed to match the profile of one of the explosive
charges.
- [c3] The loading tube of claim 1 wherein the loading tube in-
cludes at least two longitudinal sections, each section
forming more than one cup section and associated cup
cavity section, each cup section and associated cup cav-
ity section being laterally aligned with the cup sections
and associated cup cavity sections of the other longitu-
dinal sections to form the cups and the cup cavities.
- [c4] The loading tube of claim 3 wherein each of the longitu-
dinal sections is connected to the adjacent longitudinal
section along a longitudinal fold seam in a manner such
that the adjacent longitudinal sections can be folded to-
gether.

- [c5] The loading tube of claim 2 wherein the loading tube includes at least two longitudinal sections, each section forming more than one cup section and associated cup cavity section, each cup section and associated cup cavity section being laterally aligned with the cup sections and associated cup cavity sections of the other longitudinal sections to form the cups and the cup cavities.
- [c6] The loading tube of claim 1 wherein the loading tube is constructed of formed paper pulp.
- [c7] The loading tube of claim 1 wherein the loading tube is constructed of formed sheet metal.
- [c8] The loading tube of claim 1 wherein the loading tube is constructed of formed plastic.
- [c9] The loading tube of claim 1 wherein the loading tube is constructed of formed high-density polystyrene.
- [c10] The loading tube of claim 2 wherein the loading tube is constructed of formed paper pulp.
- [c11] The loading tube of claim 2 wherein the loading tube is constructed of formed sheet metal.
- [c12] The loading tube of claim 2 wherein the loading tube is constructed of formed plastic.

- [c13] The loading tube of claim 2 wherein the loading tube is constructed of formed high-density polystyrene.
- [c14] The loading tube of claim 3 wherein the loading tube is constructed of formed paper pulp.
- [c15] The loading tube of claim 3 wherein the loading tube is constructed of formed sheet metal.
- [c16] The loading tube of claim 3 wherein the loading tube is constructed of formed plastic.
- [c17] The loading tube of claim 3 wherein the loading tube is constructed of formed high-density polystyrene.
- [c18] A loading tube for a perforating gun comprising:
cups forming cup cavities for enclosing an explosive charge within each of the cups, each cup shaped to match the profile of one of the explosive charges;
at least two longitudinal sections, each longitudinal section forming more than one cup section and associated cup cavity section, each cup section and associated cup cavity section being laterally aligned with cup sections and associated cup cavity sections of the other longitudinal sections to form the cups and the cup cavities when the longitudinal sections are folded into a closed position, wherein each of the longitudinal sections is connected to another of the longitudinal section along at

least one longitudinal fold seam in a manner such that the adjacent longitudinal sections can be folded together into the closed position; and ridges forming valleys therebetween.

- [c19] The loading tube of claim 18 wherein the loading tube is constructed of formed paper pulp.
- [c20] The loading tube of claim 18 wherein the loading tube is constructed of formed sheet metal.
- [c21] The loading tube of claim 18 wherein the loading tube is constructed of formed plastic.
- [c22] The loading tube of claim 18 wherein the loading tube is constructed of formed high-density polystyrene.
- [c23] A method of operating a perforating gun comprising the steps of:
providing a loading tube comprising at least two longitudinal sections, each of the longitudinal sections connected to another of the longitudinal sections along at least one longitudinal fold seam, each longitudinal section having cup sections each defining an associated cup cavity section formed along the longitudinal length thereof, each of the cup sections and the associated cup cavity sections corresponding laterally aligned cup sections and the associated cup cavity sections formed by

the other longitudinal sections to form a cup and a cup cavity shaped to match a profile of an explosive charge and retain the explosive charge within the cup of a closed loading tube, and the loading tube forming ridges and valleys;

placing explosive charges within the cup cavities formed by one of the longitudinal sections;

folding the other longitudinal sections about the explosive charges to form a substantially cylindrical loading tube containing oriented explosive charges therein;

connecting a detonation means in operational contact with each of the explosive charges;

placing the loading tube in a carrier to form a perforating gun;

running the perforating gun in a wellbore; and

detonating the explosive charges.

- [c24] The method of claim 23 wherein the loading tube is constructed of formed paper pulp.
- [c25] The method of claim 23 wherein the loading tube is constructed of formed sheet metal.
- [c26] The method of claim 23 wherein the loading tube is constructed of formed plastic.
- [c27] The method of claim 23 wherein the loading tube is con-

structed of formed high-density polystyrene.

- [c28] A method of constructing a loading tube for a perforating gun comprising the steps of:
forming a material to have a pattern of explosive charge cups formed along longitudinal sections of the material;
placing explosive charges within the explosive charge cups along one of the longitudinal sections; and
folding the longitudinal sections together to substantially enclose the explosive charges within a substantially cylindrical tube.
- [c29] The method of claim 28 further including providing slots in the explosive charge cups for placement of a detonation cord in operational connection with the contained explosive charge.